

RED RIVER OF THE NORTH BASIN--Continued

05087500 MIDDLE RIVER AT ARGYLE, MN

LOCATION.--Lat 48°20'25", long 96°48'58", in NE¹/₄NW¹/₄ sec. 15, T.156 N., R.48 W., Marshall County, Hydrologic Unit 09020309, on left bank 30 ft upstream of bridge on County Highway 4 in Argyle and 14 mi upstream from mouth.

DRAINAGE AREA.--255 mi².

PERIOD OF RECORD.--March to September 1945, October 1950 to September 1981, February 1982 to current year. Monthly discharge only for some periods, published in WSP 1728. October 1981 to January 1982, operated as a high-flow partial-record station.

GAGE.--Water-stage recorder. Datum of gage is 828.53 ft above sea level. Prior to Nov. 8, 1951, nonrecording gage and Nov. 8, 1951 to Sept. 18, 1952, water-stage recorder at site 800 ft downstream at datum 1.0 ft higher. Sept. 19, 1952 to June 28, 1982, recording gage at site 800 feet downstream at present datum. June 29, 1982 to Sept. 20, 1983, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 1950 reached a stage of 15.25 ft present datum, site then in use, from floodmarks, discharge, 2,790 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e5.0	67	26	e2.6	e1.8	e2.7	e1500	83	139	442	36	99
2	e5.0	64	30	e2.6	e1.8	e2.7	e2000	77	316	388	31	88
3	e5.0	60	37	e2.5	e1.8	e2.7	e1600	69	366	359	25	82
4	e4.9	54	40	e2.5	e1.9	e2.7	1520	64	352	318	20	96
5	e4.9	47	44	e2.4	e1.9	e2.7	1410	61	461	281	17	207
6	e4.8	41	42	e2.4	e2.0	e2.5	1450	58	687	241	13	402
7	e4.8	37	46	e2.3	e2.1	e2.4	1660	63	905	199	9.3	548
8	e4.7	33	46	e2.2	e2.3	e2.3	2220	82	749	164	e8.0	571
9	e4.7	29	43	e2.1	e2.5	e2.2	2250	132	647	141	e10	463
10	e4.7	27	37	e2.0	e2.5	e2.0	1960	215	854	121	e15	361
11	e4.6	25	32	e1.9	e2.7	e1.8	1660	406	1010	106	e18	296
12	e4.6	21	28	e1.9	e2.9	e1.7	1360	770	1180	93	e22	237
13	e4.5	23	24	e1.8	e3.0	e1.0	1020	1230	907	86	25	190
14	e4.5	23	22	e1.8	e3.2	e1.9	772	1160	606	102	45	175
15	e4.4	20	20	e1.8	e3.4	e2.0	638	1040	418	251	89	174
16	4.4	17	17	e1.8	e3.5	e2.1	561	811	310	269	96	186
17	25	e14	e16	e1.8	e3.7	e2.3	484	658	230	292	107	196
18	74	e13	e14	e1.8	e3.5	e2.4	407	535	168	267	180	181
19	180	e15	e13	e1.9	e3.3	e2.5	350	416	129	216	184	145
20	204	17	e12	e1.9	e3.3	e3.0	308	324	105	164	150	116
21	196	18	e9.0	e1.9	e3.3	e4.0	274	250	92	120	119	92
22	172	17	e6.0	e1.9	e3.3	e5.0	244	194	87	94	97	75
23	130	16	e3.5	e1.9	e3.2	e6.0	216	155	141	81	97	62
24	97	14	e3.0	e1.9	e3.1	e8.0	193	131	453	70	271	52
25	78	15	e2.9	e1.9	e3.0	e10	167	116	597	62	464	45
26	70	16	e2.9	e1.9	e2.9	e20	146	103	631	52	533	39
27	62	17	e2.8	e1.9	e2.8	e80	129	91	856	49	468	34
28	60	19	e2.8	e1.9	e2.7	e300	115	81	946	47	346	34
29	58	21	e2.7	e1.9	---	e500	102	72	790	46	237	53
30	55	24	e2.7	e1.8	---	e700	90	67	581	42	159	66
31	58	---	e2.7	e1.8	---	e900	---	73	---	41	118	---
TOTAL	1594.5	824	630.0	62.7	77.4	2578.6	26806	9587	15713	5204	4009.3	5365
MEAN	51.4	27.5	20.3	2.02	2.76	83.2	894	309	524	168	129	179
MAX	204	67	46	2.6	3.7	900	2250	1230	1180	442	533	571
MIN	4.4	13	2.7	1.8	1.8	1.0	90	58	87	41	8.0	34
AC-FT	3160	1630	1250	124	154	5110	53170	19020	31170	10320	7950	10640
CFSM	.20	.11	.08	.01	.01	.33	3.50	1.21	2.05	.66	.51	.70
IN.	.23	.12	.09	.01	.01	.38	3.91	1.40	2.29	.76	.58	.78

e Estimated

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.0	8.42	3.41	1.34	1.50	36.4	234	94.4	78.1	62.9	12.9	18.6
MAX	94.1	108	22.2	8.77	30.0	335	966	896	660	688	265	272
(WY)	1983	1995	1995	1995	1998	1995	1997	1996	1970	1975	1993	1993
MIN	.000	.000	.000	.000	.000	.000	.20	2.12	.37	.000	.000	.000
(WY)	1954	1954	1954	1953	1953	1954	1991	1981	1973	1961	1961	1952

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1945 - 1999
ANNUAL TOTAL	31322.20	72451.5	
ANNUAL MEAN	85.8	198	47.1 ^a
HIGHEST ANNUAL MEAN			198 1999
LOWEST ANNUAL MEAN			1.60 1977
HIGHEST DAILY MEAN	1190 Jun 28	2250 Apr 9	4800 May 19 1996
LOWEST DAILY MEAN	.64 Aug 30	1.0 Mar 13	.00 ^b Aug 18 1952
ANNUAL SEVEN-DAY MINIMUM	.79 Aug 26	1.8 Mar 10	.00 Aug 18 1952
INSTANTANEOUS PEAK FLOW		2370 ^c Apr 8	5020 May 19 1996
INSTANTANEOUS PEAK STAGE		15.64 ^d Apr 2	18.27 ^e May 19 1996
ANNUAL RUNOFF (AC-FT)	62130	143700	34150
ANNUAL RUNOFF (CFSM)	.34	.78	.18
ANNUAL RUNOFF (INCHES)	4.57	10.57	2.51
10 PERCENT EXCEEDS	229	601	98
50 PERCENT EXCEEDS	21	52	2.6
90 PERCENT EXCEEDS	2.7	2.1	.00

- a Median of annual mean discharges is 40.3 ft³/s.
- b Many days, several years.
- c Gage-height, 15.60 ft.
- d Backwater from ice.
- e From floodmark

